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USSR Report

TRANSPORTATION

No. 4

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AIR SERVICE TO FAR EAST IMPROVED

Moscow VOZDUSHNYY TRANSPORT in Russian 14 Feb 80 p 2

/Article by N. Mironov, director of the Eastern Siberian Administration: "Practice Convinces"/

/Text/ Aviators of the Eastern Siberian Administration have planned to serve 3.4 million passengers in 1980. The stable growth of the volume of passenger flights, of course, is cause for joy.

However, the indicator of high quality was and remains for us the primary, determining indicator. We have chosen here two basic directions of work, the improvement of informational services and the raising of the regularity of flights. After all, in the final analysis, it is precisely this which gives concrete expression to Aeroflot's motto: quickness, comfort and reliability.

Currently, the regularity of our flights comes to more than 87 percent as against the plan for 85. Passengers are not being delayed in airports and in hotels, and crews are working effectively. This has been achieved, first of all, thanks to the improvement of the organization of the preparation of airplanes. Much has been achieved in such work at the airports of Bratsk, Chita and Ulan-Ude. We installed industrial television for the first time in Irkutsk. The "hottest" points -- at the booking office, at the platform, at the parking lot and others -- are constantly monitored.

Work is more regular now in all aviation enterprises. Instructions and brief "mobile teams" of information service workers have begun to be used more often. Indeed, complaints have gone directly to them. We are convinced that these measures, together with the raising of the quality of professional training, will help raise the authority of the information service.

We have also done a great deal to increase the comfort of airports. A new complex was put up in Ust'-Ilim with a beautiful dining room and a passenger pavilion. Incidentally, Yak-40 planes are now used there exclusively instead of the Il-14. In Ust'-Kut last year, we accepted the first airplanes on a new concrete runway, and future plans call for the expansion of this airport and the construction of a passenger pavilion.

The runway at the Ulan-Ude airport has been lengthened with the future use of new aviation equipment. The Tu-154 is replacing the Il-18. Also, a new air terminal building is being built there.

An international sector for the servicing of aviation passengers is taking shape in Irkutsk. This work is being conducted in accordance with the plan for preparations for Olympiad-80 in Moscow.

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IL-76 FLIGHTS BEGUN TO ARCTIC

Moscow VOZDUSHNYY TRANSPORT in Russian 11 Mar 80 p 1

[Article: "The IL-76 in the Arctic Sky"]

[Text] The non-stop flight of 3,000 kilometers which the air giant, IL-76, made from Krasnoyarsk to the airfield of the island, Sredniy (in the Northern Land Archipelago) was impressive. After a quarter of an hour of flight, the gloomy little strip of the northern horizon began to gradually widen upwards and soon covered the sky. This polar night, which had receded into the high latitudes, was still persistently reminiscent of itself. The hummocked landscape below was covered with long black shadows. And then there remained only a multi-colored ribbon--from purple to delicate emerald--from the shining winter day over the southern horizon. On the return to the mainland, these magical "personnel" alternated in the opposite order. Night "dropped behind" and day came again.

The crew, under the command of first-class pilot V. Yatsunenko and A. Khalin, an inspector who served as a USSR pilot and the director of the Krasnoyarsk Administration of Civil Aviation, made the first technical cargo flight to the Arctic in the history of domestic aviation in order to ascertain flight conditions for the servicing of the high latitude expedition, "North-80," and to deliver tens of tons of instruments, equipment and materials to Sredniy.

Because of its weather, the Arctic, to say the least, is not favorable to this imprudent invasion of aviators into its threatening borders. But, thanks to the well chosen time, the first flight to Sredniy was successful. Regular flights are beginning. And in the future there will be even longer flights of the IL-76 over the spaces of the Arctic Ocean where the "North" expedition is scattering its work.

8885
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AIR

DELAYS REPORTED IN TU-154 NORTHERN FLIGHTS

Moscow VOZDUSHNYY TRANSPORT in Russian 31 Jan 80 pp 1, 2

/Article: "The Northern Route's Vulnerable Places"/

/Text/ A special "Vozdusnyy Transport" correspondent flew on assignment to Pevek on board a Tu-154. His first report comes from the starting point of one of the most remote routes of Aeroflot.

Hundreds of residents of Chukotka arrived at the Pevek airfield at the end of February of last year to meet the first Tu-154 making a regular flight. This day was a holiday for the future passengers of the modern, high-speed, comfortable airliner. It promised them a more than twofold reduction of the time for the trip to Moscow and much more comfort than the previous line to the capital could give on an Il-18 with stops at Cherskiy or Chokurdakh.

This day was also a holiday for the aviation workers. It signified the successful completion of a great deal of work in the preparation and carrying out of the flight. It meant that regions of the country which used to be backward with respect to aviation had caught up, and now local airports were equipped to receive and guarantee the flights of the most modern airplanes.

Today, Tu-154 flights along northern routes have become a regular occurance. We have become used to them, we are familiar with them. In the north, there are hard surface landing strips, the necessary electronic equipment and platform mechanization and a sufficient number of specialists. The practical experience of servicing a Tu-154 has appeared. It would seem that there would be fewer problems with maintaining flights and, correspondingly, that both the regularity of flights and the level of passenger services would be higher.

All this is so if one assumes that daily routine means efficiency, accuracy and confidence in work.

"Our flights were more or less on schedule for the first month," says L. Korotkov, deputy commander of a subdivision of the Vnukovo Production Association. "And then the merry-go-round began to spin with delays, cancellations, and transfers of flights..."

"Flights, as a rule, begin with a delay in Vnukovo," continues L. Korotkov. "In no way do they manage to load the food on board on time. It is difficult to explain this by the fact that more of it is taken on board than for other flights. And to say that there are not enough cargo workers or not enough specialized transportation are all excuses. The administration of transport service simply does not give the proper attention to northern flights. From here moves the entire chain of delays with loading, passenger boarding and so on..."

"Another reason for the delays," says N. Shepilov, a subdivision commander, "is the unsatisfactory meteorologic ensuring of flights."

The Pevek airport receives and dispatches all types of aircraft. The local aviation and meteorologic station would give a normal prediction for the scheduled time of arrival here of a scheduled Tu-154. And it would promise good weather at the reserve airfield in Anadyr'. An airplane would fly from Vnukovo with a 40-minute delay because of the shipping department. It would arrive in Pevek more than 11 hours behind schedule. Why would this happen?

"Meteorologic information from Pevek and Anadyr' could not arrive in Noril'sk on time," says L. Korotkov.

"They do not always operationally cope with refueling there," continues N. Shepilov. "A stoppage could also take place due to the fault of the dispatcher service. The arrangement of aircraft on the concourse, the sequence of the servicing and dispatching of airplanes is often incorrectly planned in Noril'sk..."

"Could they not place an observer on the near homing station," says subdivision navigator Yu. Chernitsyn, entering into the conversation. "The weather minimum significantly increases from this action. It is possible that it would be necessary to go to the reserve airfield..."

A departure to a reserve airfield is not unusual and in no way presumes such consequences as a 12-hour delay to the final arrival point. This is the case if there would be no problems with landings at reserve airports for airplanes bound for Noril'sk. There is not enough electronic equipment at Igarka. Therefore, the weather minimum for a Tu-154 is anachroistically high. And in Khatanga, as a rule, the weather "automatically" deteriorates following Noril'sk. Often it is not possible to check corresponding actual weather conditions at the local airport with what is given in information since this information is not always documented.

Khatanga gives a constant coefficient of friction for the landing and take-off strip of 0.3 Pilots maintain that it simply cannot constantly be this value. It is possible that the constancy is explained by the fact that a nonscheduled Tu-154 establishes a coefficient of friction not lower than 0.28.

But even if both Khatanga and Igarka "give" the technical readiness of their airfields, they do not "give" refueling services. We are refering to the instructions of the management of the Krasnoyarsk Administration to refuel unscheduled airplanes only up to the nearest airport. It is necessary to fly to Noril'sk. Time is needed for this.

And if there is not enough working time even up to Noril'sk? The management of the Igarka Aviation Enterprise has provided a room in a club for the crew of a Tu-154 to rest in (six square meters for 10 people). In the summer, many crews preferred to rest in the salon of the airplane. They cannot remain in it for long in the winter due to the cold.

A Tu-154 has carried out regular flights to Anadyr' since January. And on this run there is one reserve airport in Pevek. Since May of last year they have been making regular flights to Pevek and have had one reserve airport in Anadyr' the entire time.

"When the Moscow to Pevek route was opened," says N. Shepilov, "they promised us two more reserve airports in Tiksi and Mys Shmidta. Tiksi was closed all summer due to the limitation for take-off weight. Mys Shmidta has not accepted us up to the present."

There are many reasons for the Tu-154 not arriving in Pevek on time. Everything the pilots talk about in the subdivision of the Vnukovo Aviation Enterprise in one way or another affects the regularity of flights during the time when these runs are carried out. However, even before the beginning of the regular flights, managers of the Arkhangel'sk, Krasnoyarsk, Yakutsk and Magadan administrations testified that all unfinished work indicated in the acts of commission for the results of technical flight was completed and all services were ready to guarantee Tu-154 flights.

The airplane following route 2119 about which we spoke was 11 hours late to Pevek simply because its take-off was delayed by 40 minutes in Vnukovo. The changeable northern weather accounted for the rest. But what is responsible for this? Perhaps, to increase the regularity of flights along northern routes it is not necessary to write off weather calculations, but on the contrary, to add 11 hours of bad weather to the 40 minutes of irresponsibility and to make those who must answer responsible for this.

8885
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AIR

DEFECTS IN MI-8 HELICOPTER

Moscow VOZDUSHNYY TRANSPORT in Russian 16 Feb 80 p 2

[Article: "The Designers Answer the Flight Mechanic"]

> [Text] The editors have received a letter from V. Nedopekin, a flight mechanic for the Mi-8 helicopter who works in Mys Kamennyy of Tyumenskaya Oblast, on the design defects of the Mi-8 helicopter and the difficulties which aviators encounter using it, especially during the winter.
>
> The editors sent this letter by our reader to the Design Bureau imeni M. Mil'. From them we received the answer which we are publishing herewith because it seems to us that the questions raised by V. Nedopekin and the answers of engineers at the design bureau will be interesting to many readers of our newspaper.

At the request of the editors of the newspaper VOZDUSHHNYY TRANSPORT, design bureau specialists reviewed the questions raised in the letter concerning defects identified in the Mi-8 helicopter when it was operated in the Polar region.

Unfortunately, some of the issues which you raise are coming before the design bureau for the first time, even though they have already become pressing matters to you. One of them is the question of inadequate defrosting of the windows of the crew's cabin.

Indeed, the first production runs of the Mi-8 helicopter used a distribution shutter at the input of the heating system. However, experience with operating these machines demonstrated that its use often virtually eliminated the delivery of air to the cargo compartment. This slightly increased the supply of air to the pilots' cockpit, but it caused the heater to wear out prematurely because the combustion chamber would overheat, resulting in the buckling and cracking of its walls and heater burnouts.

We are now working on a certain redistribution of heat between the cargo and pilots' compartments. We will report additional results of this work.

The author of the letter raises the question of protecting the cargo floor and reserve fuel tanks against damage during loading. Analysis of defects in the cargo floor of helicopters delivered to repair plants indicates that all the breakage is linked to rough loading and unloading of large, heavy cargo. It is difficult to make a light, universal surface to protect the floor with any variation of cargo arrangement. The optimal solution to these problems can only be found on the spot if you, as the master of the helicopter, demand that the customer whose freight you are carrying supply the planks or plywood necessary for loading and arranging the cargo.

Concerning operation of the external suspension we can say the following. A certain amount of care is essential for any mechanism to work properly. The clamps of the cargo lines, called the "spider," are such a simple mechanism. The instructions for use envision certain procedures for storing and taking care of the cargo lines: periodic (every 50 and 100 hours of flying time) inspection and testing of how easily the clamps open, their lubrication, and the like. Where these requirements are followed strictly the phenomena which you describe should not occur.

However, in view of your remarks we are now considering proposals to make the operating instructions more precise, in particular to institute a mandatory check on the ease of opening and lubrication of the movable joints of the clamps before each flight in which the external suspension is used.

As for the supply of cargo lines, in addition to those delivered together with the helicopters a certain supplementary quantity is delivered to the Ministry of Civil Aviation by the helicopter manufacturing plant.

During 1977-1979 we worked on improving ways to prevent moisture from entering the antenna loops. Technical instructions on improving the protection of the antenna block, antenna amplifier, and other parts and assemblies have been developed and turned over for series introduction and for publication of a repair bulletin.

We believe that these design changes significantly improve the seal of the antenna loop compartments, but the elementary requirements of normal use must be observed. This will prevent damage to the lids of the antenna loop hatches, accumulation of snow inside the fuselage, and clogging of the drainage holes in the fairing of the antenna loops.

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RAILROAD

COMPUTERS USED TO ORGANIZE RAILROAD TRAFFIC

Moscow PRAVDA in Russian 10 Feb 80 p 2

[Article by Ye. Tishkin, doctor of technical sciences, Moscow: "Improving the Economic Machinery; Computers Will Help"]

[Text] Last year at the Surgut Station of the Sverdlovskaya Railroad arrived severalfold more freight cars arrived than the railwaymen could receive. The same thing happened at the Lena Station in East Siberia, where Osetrovo Port time and again was overcrowded with cars. Last year in the country's east the progress of cars was delayed by a total of 24 hours.

What is the matter? Why has an above-normal fleet of cars in a certain single region of the country become an almost ordinary phenomenon, while in others there is an acute shortage of cars? How can this be avoided?

Of course, the solution to this problem depends to no small degree on the effectiveness of the system for controlling the transportation process. A great deal has already been done with regard to equipping it. Computer centers supplied with modern machines have been created for the railroads. The computers have been kept fully occupied, as they say, "by demand." But with what and how have they been fully occupied? Has there been a savings from this? Even the most clever machine cannot by itself instill order in organizational chaos. It only imparts a benefit when a human being knows distinctly what to "feed" his electronic assistant, what part of his cares to entrust to it.

The root of the evil must be sought primarily in planning. Disproportions have arisen in the demands of the national economy and the capabilities of transportation because for a long time railwaymen have solved incompletely the problem of developing the traffic and processing capacities of our steel arteries. Each service of the industry has individually developed its own equipment. Scientific developments have been carried out for local projects. To a considerable extent this has been the result of the notorious "gross output."

It cannot be said that the total volume of transportation in the country's east exceeded all expectations last year, that it was higher than the level achieved previously. Even more has been hauled with the same traffic capacities. But now business has come to a standstill. This cannot be explained by anything other than infringement of the even tempo of transportation.

Irregularity is objectively characteristic of the transportation process. On many lines on individual days and at individual times of the day the intensity of work is two- to threefold greater than the normal volume. If it were a question of a power system, then it would all be simple. In cases of an overload in it, a protection system is triggered--individual sections of the network are cut off. But it is not possible to "cut off" a railroad network, nor its overloaded sections and lines. And you do not strategically transfer additional capacities in order to eliminate a "clot" in a transportation artery. There is one thing left: to create an efficient system of advance control which will not permit the origin of a critical production situation.

We will not forget that the USSR railroad transport system, as a control system, is unique in terms of its scale and dynamic nature. It unites more than 4000 enterprises, about 200 departments and 30 railroads, the situation in which is determined by the continuously changing distribution of thousands of pieces of rolling stock. It is certainly not possible to cope with such a system "manually." However the potential for the automation of control has been far from exhausted. Everyone is looking after the traffic capacities of lines, sections and stations. But the rationalization of control and the maximum utilization of technical capabilities have still essentially not been included in the agenda.

What has it come to, then? The Surgut or Lena stations are not able to handle the amount of cars arriving at their destination. This means that it is necessary to regulate the flow at the loading stage, to put on wheels precisely as much freight as the addressee can receive. And no more than that. But it has business relations with the entire country; thousands of partners send it goods. Without the participation of computer equipment efficiently calculating the daily load for a specific station it is completely impossible to observe an even tempo for the arrival of freight.

Is this job within the power of computers today? Yes and no. We estimate, for example, that if all operations data are entered into the computer network, then the total volume of information equals about 2.5 million characters at each railway computer center. Individual computer centers are processing this amount of data already now.

But even if all the computer centers of railways were to reach the levels reached by the best of them, they all the same would be abandoned by isolated "cybernetic islets" which more or less effectively assist individual railway administrations in the organization of business. Between these "islets" there is no reliable communication--in the direct and transferred sense. But we are talking about advance control, not permitting the origin of a critical situation. What is it based on? A transportation plan which is balanced and objective and is consistent with the capacities of the system. Transportation does not have such a plan, as was recently correctly noted in PRAVDA.

On the other hand, there are not sufficient raw data for drawing up such a plan. On the annual requisitions of shippers there is no indication of the precise destination of freight to be moved. Even on monthly requisitions there is an indication only of the railroad, but not of the station of destination. And what is a railroad? It is many thousands of kilometers from end to end. For example, according to the shipper's monthly requisition a shipment is made to the address of the Sverdlovskaya or East Siberian railroad, and only then is it revealed that the terminal stations are Surgut or Lena themselves. Try to follow this. The demands for transport workers to indicate on their requisitions the precise destination of freight have remained a voice crying in the wilderness. Neither the USSR Gossnab nor USSR Gosplan have backed railwaymen in this matter.

There must be a definite plan for the work of transportation: what to transport, from where and to where. Planning of only shipping itself will not straighten out the matter. Eighty percent of shipping is performed by the shippers themselves. The transportation itself should be the basis of a transportation plan. Without this it will not be possible optimally to regulate the operation of each link in the transportation conveyer line. And advance control, having the purpose of eliminating critical situations, will perhaps remain only a scientific term.

It is agreed that if railwaymen do not have raw data--how much freight and how many trains and cars must travel along a specific line or section and how many of them will arrive at a specific station--then it is impossible either theoretically or practically to prevent the origin of critical situations. And computers prove to be helpless here. But if such information were available, then on the basis of this it would be possible beforehand to predict bottlenecks and to take timely measures.

This means that railwaymen, too, must revise the traditional methods of norm-setting and controlling transportation. Let us say that according to the procedure adopted traffic capacity is calculated by dividing 1440 minutes (the length of a 24-hour period) by the minimum interval between trains which is technically possible for a specific section. Such calculations permit an error for individual sections of 15 percent and more.

A much more important indicator--carrying capacity--under operating conditions of use has not been standardized at all. And it is precisely this which reflects the dependence of the real amount of freight transportation on a combination of factors. For example, because of the insufficient reliability of locomotives and cars the degree of utilization of traffic capacities is reduced by five to 10 percent. How is it possible not to take into account this fact?

In our viewpoint, it is necessary to develop technical data sheets for sections, lines and stations, defining production capacities, based on scientifically substantiated regulations. And once again these calculations can be performed only by using computers. It is obvious that it will be possible to predict critical situations and prevent them only when knowledge is had beforehand, at the planning stage, of the weight of the freight to be transported, the route it is to follow, and the technical capacities of the steel conveyer line.

Up to this point we have been talking about prearranged ordering of the work of computers in railway transportation. But this is insufficient. It is important also to ensure the normal functioning of the equipment itself. This has its difficulties, too. In particular, there is a shortage of computing capacities and communications channels and there is insufficient terminal equipment, message concentrators and other equipment. Even in the organization aspect not everything has been done yet. In the MPS [Ministry of Railroads] the gathering of primary information is now being accomplished concomitantly by statistical reporting agencies and computer centers. Is it not obvious that it is time to combine them into a single service? Thousands of people are doing redundant work. There is where the potential is!

Yes, here and there the technical capacities of the railway system have been exhausted or are close to it. But if one thinks about this fact it is impossible not to notice that this has taken place as the result of errors committed in the past. And with the traditional form of control they have become practically inevitable. It is more obvious each year that the forms created over the decades and the methods of controlling such a complex system as the USSR railway transport system have almost exhausted their capabilities. The era of man-computer control systems has come.

The party has called for the development of a longterm comprehensive program for the development of transportation which will include the best achievements of scientific and technical thought. Among these achievements must be numbered automated control systems furnished with modern computers.

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OCEAN AND RIVER

MARITIME TRANSPORT IN THE SEVENTIES REVIEWED

Moscow VODNYY TRANSPORT in Russian 1 Mar 80 pp 2,3

[Article by S. Karpov, Candidate in Economic Sciences, Sea Captain, and Scientific Associate of "Soyuzmorniiproyekt": "The Tendencies and Prospects of the Maritime Fleet"]

[Text] The 1970s will go into history as a period of the unprecedented development of scientific and technological progress in maritime transport and of the appearance and establishment of new and highly productive systems of delivering cargoes and increasing the role of the maritime fleet in the world economy. At the same time, these were years of sharp contrasts -- the construction of giant supertankers and narrow specialization in the construction and operation of ships, tremendous freight booms and very deep crises, and attempts to regulate navigation policy and very acute social and economic contradictions and conflicts in the sphere of world maritime shipping.

In 1979 international maritime freight hauls came to 3.8 billion tons. During the 1970s their growth came to 1.5 billion tons -- more than was shipped in a year at the beginning of the 1960s. The average distance of maritime transport increased by 1,000 miles. Cargo shipments developed especially rapidly during the first half of the 1970s when they increased by an average of 200 million tons a year. This resulted in an intensive development of the maritime fleet. During the decade its tonnage doubled, and by the middle of 1979, according to the data of the English Lloyd Register, it reached a capacity of 413 million regular tons with a deadweight of 682 million tons.

However, the development of shipments and especially of the fleet took place very unevenly. In 1973 the increase in cargo shipments reached its highest level -- 375 million tons. A scarcity of ships began to be felt. Freight rates moved up rapidly. A tremendous shipbuilding boom began. By 1975 the order portfolio of ships at the world's wharves had increased to 273 million tons, having exceeded the level of the end of the 1960s by three times. The very deep crisis in the capitalist economy which broke out after this and also the exacerbated political conflict between the imperialist international monopolies and the leading industrially developed capitalist states and the OPEC countries threw the development of maritime trade way back. In 1974 it increased (on the whole) by only 1 percent, while in 1975 it even decreased by 8 percent. Meanwhile, the fleet continued to be added to by previously ordered ships in ever increasing numbers. In 1975 ship deliveries reached 66 million tons, exceeding the "norm" by more than 2 times.

As a result, an enormous surplus of ships was formed. Freight rates fell to an extremely low level which sometimes did not even compensate the ship owners for their current expenditures. There was a wave of bankruptcies, the mass annulment of shipbuilding contracts, the accelerated scrapping of operating tonnage, and the storing away of ships or their operation at lower "economical" speeds. By the middle of 1979 the total tonnage of ordered ships had decreased to 51 million tons.

The chief characteristic of the development of the maritime fleet of this period is a narrow functional specialization and a sharp increase in the size of ships. Whereas during the post-war years and up to the 1960s any cargo ship carried in essence any general or bulk cargo and a tanker carried all liquid products, today cargo ships have more than 100 specializations and tankers have more than 30. During the 1970s the average cargo capacity of the ships of the world transportation fleet doubled and is now equal to 19,600 tons.

There was an especially rapid development in the 1970s of the tanker fleet which experienced the greatest upsurge and the deepest crisis. During the years 1963-1973 the amount of maritime petroleum shipments increased by 1.2 million tons, including 600 million tons during the first four years of the 1970s. In 1973 the proportion of petroleum in the total amount of maritime cargo shipments reached 57.2 percent, and the total share of the transportation of liquid cargoes exceeded 60 percent. The closing of the Suez Canal in 1967 increased the length of the basic petroleum flow from the Persian Gulf to Western Europe by 2.5 to times. Under these circumstances "ordinary" size tankers could no longer physically cope with such a freight flow. The era of supertankers began. Practice had shown that the expenditures for one ton of shipped cargo in them were 2 to 3 times lower. This intensified the interest even more.

Blinded by their hunger for profits, shipping companies began to order large supertankers in ever increasing numbers: 1966 -- "Tokyo-Maru" -- 151,000 tons; 1968 -- "Universe Island" -- 326,000 tons; 1971 -- "Nisseki-Maru" -- 373,000 tons; 1973 -- "Glbtik Tokyo" -- 484,000 tons; 1976 -- "Batilus" -- 540,000 tons, and, finally, the "Pierre Giyom" -- 554,000 tons in 1978.

By 1975 tankers accounted for 85 percent of the world's shipbuilding orders and for two-thirds of the ship deliveries most of which consisted of supertankers. However, the tanker boom did not last for long. In 1974 petroleum shipments decreased by 36 million tons, and in 1975 by 193 million tons. Approximately one-third of the tanker tonnage was put in storage, and part of the ships were converted into temporary petroleum storehouses. Ship owners rushed to rid themselves of superfluous supertankers. Some observers hurried to announce that the "mode" for supertankers had ended. However, their appearance and also the appearance of other large-tonnage ships was not an anarchic event and was dictated by two main reasons: by economics and by the dimensions of shipping. For example, in order to replace the 390 supertankers with a cargo capacity of more than 250,000 tons which are now in operation it would be necessary to have an entire flotilla of more than 3,000 T-2 type tankers which were the most widespread in the world's fleet during the post war years.

According to the data of the English brokerage house "John Jacobs," 60 percent of the world tanker tonnage now consists of supertankers with a cargo capacity of more than 200,000 tons which have practically displaced the "common" size ships from the main petroleum shipment routes. However, the recently increasingly frequent accidents of supertankers which, as a result of oil spills, have caused enormous damage to the environment have compelled the international shipping organization IMKO and also the governments of many countries to increase the demands upon the operational safety and designs of super ships.

In the future supertankers will clearly retain their leading position, but their size will be limited to 200,000 to 300,000 tons, and in their designs there will appear double-bottomed tanks, double decks, separate storage capacities for "clean" ballast, and so forth which will greatly reduce the possibilities of an accidental oil spill.

The rapid growth of the consumption of and international trade in fuels and other gases has given rise to the accelerated development of gas carriers whose tonnage during the 1970s increased by more than 5 times and has doubled during the last three years. Their development is following two basic directions: the creation of specialized ships for transporting liquid natural gas -- (methane, ethane, and others), and ships for the shipment of liquid petroleum gas -- (propane, butane, and others). The dry liquid gas carriers are built with a capacity of 70,000 to 130,000 cubic meters and more, while dry petroleum gas carriers are built in somewhat smaller sizes -- 10,000 to 50,000 cubic meters.

The development of the chemical tanker fleet which has increased by almost 5 times has been equally intensive. In recent years world shipments of dry cargoes have increased by almost 700 million tons, and their average distance has increased by 600 miles. The rapid growth of metallurgy which had already begun in the 1960s, the chemicalization of production, and the intensification of agriculture in most of the countries of the world stimulated a sharp increase in maritime shipments of iron ore, bauxites, phosphates, and sulfur. The increased needs for coking and then for energy coals gave rise to a new increase in the amount of the transportation of hard coal, while the exacerbated scarcity of food in a number of areas of the world gave rise to a substantial increase in grain deliveries. At the present time mass bulk cargoes come to more than two-thirds of world maritime dry cargo shipments.

All of this has given rise to a rapid development of a specialized large tonnage bulk fleet. During the past decade its tonnage has tripled. The average cargo capacity of a current bulk carrier is 35,000 tons -- twice as much as ten years ago. A large number of ships have sizes of more than 100,000 and even 150,000 tons. The largest are used for shipping iron ore.

The endeavor of ship owners to somehow make themselves secure against the vagaries of the freight market and also to ensure the loading of ships at both ends of their routes has engendered the creation and rapid development of bulk tankers -- for the transportation of petroleum in one direction, and of mass dry cargoes in the other. During the first half of the 1970s alone their tonnage increased by almost 4 times. In 1973 the largest bulk tanker, the "Sviland" with a dead weight of 285,000 tons, was put into operation. However, the expected further rapid development of these ships did not occur. The construction peak for them had already ended in 1972. During the period of the exacerbation of the shipping crisis a large number of bulk carriers with a total tonnage of 8.5 million tons were deprived of work. Today only 20 bulk tankers are being built at the world's wharves. Practice has shown that despite the universality of these ships, they were used basically for transporting the same kinds of cargoes since washing the tankers after petroleum in order to place dry cargoes and especially grain or sugar in them was not always economically justified. During the period of intense shipping 80 to 85 percent of the bulk carriers were used as tankers. Yet, the construction and operation of the bulk carriers is 15 to 20 percent more expensive. The intensification of commodity exchange between the chief industrial centers of capitalism and the wider emergence on the world trade market of the socialist countries has given rise in recent years to a more intensive development of shipments of general cargoes and to favorable prospects for the future.

The rapid development of scientific and technological progress in transportation in the 1970s brought about the creation of fundamentally new transportation-technological shipment systems. The chief slogan of commercial shippers -- the delivery of cargoes "from the producer's door to the consumer's door" -- has received its greatest emodiement in the mass containerization of general cargoes. In a decade the container fleet increased by 7 times.

In the opinion of the chairman of the largest West German shipping company "Gapag-Lloyd," by the year 2000 world shipment lines will double in volume and their containerization will reach 80 percent. On the basic lines the average capacity of ships will come to 3,000 containers.

Beginning with the second half of the 1970s there was an exceptionally rapid development of the ro/ro fleet -- ships for the transportation of trailers, automobiles, and wheeled equipment. During the last four years alone its tonnage has almost tripled. Ships of this type have a dead weight of 20,000 to 50,000 tons and a speed of 20 to 25 knots.

Ten years ago the first lighter carrier, the "Acadia Forest" which took 73 floating lighters of 450 tons each on board, opened a new direction in maritime shipping. By the middle of the 1970s the tonnage of the world lighter carrying fleet reached almost a million tons. But with this its development stopped. Practice has shown that lighter carriers produce a large economic effect if they connect the ports of large internal water systems on which their lighters are dispatched or delivered to receivers.

An instructive example of ignoring this important factor can be found in the sad history of the American company "Pacific Far East Lines" which attempted to create a lighter carrying transportation system between the Pacific ports of the United States and areas of the Far East and Southeast Asia.

The joint "Interlikter" company which connects the ports of the Danube countries with the estuary ports of the states of the Near East and Southeast Asia which was founded by Bulgaria, Hungary, Czechoslovakia, and the Soviet Union provides a positive contrast in this connection.

As for all-purpose ships, during the last decade their proportion in the shipping fleet has fallen from 62 to 40 percent. Most of them are obsolete. Around half of them are small-tonnage coastal ships less than 1,500 tons in size. Recently their replacement has become active. The new dry cargo all-purpose ships differ from their predecessors in a fundamental way. They are also specialized in completely specific types of cargoes and sailing areas.

During the 1970s the role, function, and structure of the world's passenger fleet changed in a fundamental way. Large liners have in essence completely disappeared from the ocean cargo routes, yielding their place to aviation. After reconstruction and simplification most of them were adapted for vacation cruises. Thus, the pride of France -- the very large and comfortable "France" -- was sold to a Norwegian company for alteration and use in seven-day cruises to the Carribbean. And recently the same fate befell the most rapid liner of the United States -- the "United States."

In recent years the cargo-passenger fleet has decreased by 1.5 times. At the same time, there has been a sharp increase in the role and dimensions of ferry communications. Ice-cutters and scientific research vessels whose number compared to 1969 has doubled form special detachments of the world fleet. It is pleasant to recognize that the leading positions here are occupied by the Soviet atomic ice-cutters, "Lenin," "Arctic," and "Siberia" and the scientific research laboratory vessels "Vladimir Kordev" and "Astronaut Yuriy Gagarin."

Fishing ships comprise the most numerous group -- around 30 percent of the world fleet. During the decade their total tonnage doubled and reached 12.4 million registered tons. Here also new and highly productive trawlers, floating factories, and refrigeration ships have appeared, but their sizes have remained relatively small.

And finally about tugs. Their number has also doubled. At the same time, the 1970s with its general tendency toward a growth in the size of supertankers, bulk carriers, and container ships made new and increased demands on tugs. Whereas 10 to 15 years ago the capacity of port tugs was 300 to 500 and, rarely, 1,000 horsepower, now it has increased to 3 to 5 thousand and even 10,000 horsepower.

In conclusion it can be said that world maritime shipping of the 1970s took a qualitatively new step in its development.

[Table on following page]

WORLD MARITIME FLEET

(1 July 1979)

Type of ships	Number of ships	Capacity in Thousands of registered tons	Percentage Proportion
Petroleum tankers	6950	174218	42.2
Chemical tankers	596	2079	0.5
Other tankers	120	247	0.1
Gas carriers	580	6677	1.6
Bulk tankers	430	26496	6.4
bulkers	4208	81827	19.8
Dry Cargo all-purpose	22407	80217	19.4
Container carriers	594	9996	2.4
Lighter carriers	27	687	0.2
Ro/ro ships	187	1588	0.4
Livestock carriers	83	311	0.1
Cargo-passenger	337	1460	0.3
Passenger and ferries	3152	7250	1.7
Total Transportation Fleet - - - - -	29671	393048	35.2
Fish factories and transporters	817	3553	0.8
Fishing ships	19609	8891	2.1
Suppliers	1313	1104	0.2
Scientific research	470	534	0.1
Dredges	652	1190	0.3
Ice-cutters	92	403	0.1
Tugs	6218	1850	0.4
Others	2287	2448	0.6
Total (Non-Transportation fleet)- -	31458	19973	4.8
Total World Fleet - - - - - - -	71129	413021	100.0

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MARITIME TRANSPORT PLEDGES FOR 1980 PUBLISHED

Moscow VODNYY TRANSPORT in Russian 17 Jan 80 p 1

[Article: "The Socialist Commitments of the Workers of Maritime Transport for 1980"]

[Text] In implementing the historic decisions of the 25th CPSU Congress, as a result of their great labor and political enthusiasm and on the basis of a wide development of an all-union socialist competition to increase production efficiency and improve the quality of work, the workers of maritime transport have successfully fulfilled the 1979 plan for the shipment of national economic and foreign trade cargoes and also for loading and unloading work in the ports. Imported cargoes which are important for the economy and all ordered cargoes for areas with limited navigation periods have been shipped. Ship repair plants have fulfilled their output production plans.

Guided by the decisions of the 25th CPSU Congress, the November (1979) Plenum of the CC CPSU and the Second Session of the USSR Supreme Soviet, and by the tasks which were set in the speech at the Plenum of the General Secretary of the CC CPSU Comrade L. I. Brezhnev, the workers of maritime transport are directing all of their resources, knowledge, and energy toward a further increase in the efficiency in the work of every ship, port, and ship repair enterprise, toward improving the qualitative indicators of the use of transportation equipment and fixed capital, an increase in labor productivity, and the observance of a regimen of economy and thrift.

The advanced crews of the ships and enterprises of the branch -- the initiators of a socialist competition -- have come out with an initiative to work intensively. The crews of the ships "Vladimir Il'ich," "Klim Voroshilov," "Berezinales," "Yepifan Kavtyukh," and "Ivan Franko" and of the atomic ship "Lenin," have developed a socialist competition for a further increase in the carrying capacity of ships, for ensuring the highest economic efficiency for every run, achieving a high standard of passenger services, and prolonging the operation of a ship without plant repairs to ten years; the cost accounting operations group of the ships of the No. 1 Latvian Maritime Steamship Company have adopted a commitment to work without laggards.

The collectives of the consolidated overall docker-mechanization specialist teams of the Odessa and Korsakov ports have adopted the following commitments: the team of V. I. Zimoglyada -- to ensure the above-assignment unloading of 1100 cars on the basis of the effective use of working time during the processing of ships; the team of G. V. Batyuni -- to fulfill the annual plan by 7 November 1980 and to process 20,000 tons of above-plan cargo on the basis of an improvement of the organization of the processing of the fleet by the team contract method.

The workers of the Vanino port are commiting themselves to ensure a further increase in the transshipment of cargoes in packets and containers and to substantially decrease the cost of cargo processing.

The collective of the Baltic Maritime Steamship Company has come out with an initiative to complete the fulfillment of the five-year plan by the third anniversary of the new USSR Constitution.

The consolidated overall teams of the Nakhodka and Odessa ship repair plants and of the team leaders L. P. Sidorchuk and V. M. Vasil'yev and also the collective of Sovgavan Ship Repair Plant have joined in the struggle for ahead of schedule high quality ship repairs with the issuance of guaranteed commitments.

Striving for a worthy celebration of the 110th anniversary of the birth of V. I. Lenin and for the successful completion of the Tenth Five-Year Plan and preparing to meet the 26th CPSU Congress, the workers of maritime transport are adopting their socialist commitments for 1980:

--to ship one million tons of above-plan cargo in coastal sailing for the country's economy and to ensure a further increase in the shipment of cargoes to the Far North and Far East;

--to overfulfill the plan for the fleet's work in foreign trade by .5 percent;

--to ensure a high standard of passenger services and to transport 300,000 people in addition to the plan in all types of sailing; to transport the participants and guests of the 1980 Olympics in a high quality manner;

--to process 2 million above-plan tons of national economic and foreign trade cargoes in the ports;

--to ensure the further development of overall socialist competition with the seamen and dockers of Cuba, Vietnam, and the other CEMA member countries, and also an increase in the amount of the shipments on the international boat train between the ports of Il'ichevsk and Varna;

--to increase labor productivity in shipments, loading and unloading work, and at industrial enterprises by .3 percent in excess of the plan;

--to shift an additional 78 ships to operations in accordance with the experience with the Shchekino Chemical Combine;

--to economize 2.3 percent more fuel than the established norm;

--to shift 46 ships to the system of continuous classification by the USSR Register and to complete the shift of the basic nucleus of the fleet to a prolonged operations period;

--to overfulfill the average daily output norms in repairing transportation vessels at ship repair plants by 3 percent;

--to achieve an economy of the repair time budget of 11 million tonnage-days;

--to obtain an above-plan economic effect of 1.9 million rubles from the introduction into production of scientific research work, new equipment and advanced technology, and inventions and rationalizers' proposals;

--to overfulfill the construction and installation work plan by one percent; to commission the loading complexes in the ports of Novorossiysk and Imail 40 days ahead of schedule; to commission a month ahead of schedule 20,000 square meters of general space in the residential houses of the steamship companies and a kindergarten for 280 children in the city of Kholmsk;

--to obtain 10 million rubles in above-plan profits from the work of all of the subdivisions of maritime transport.

The fulfillment of the socialist commitments which have been adopted is to be carried out on the basis of:

--a further improvement of the economic mechanism and of planning in the branch and of the level of the organization of the work of the fleet, the ports, and coastal enterprises, a decrease in ship and car processing time, an improvement of work with related types of transportation -- in accordance with the experience of the Leningrad transportation center;

--the ahead of schedule mastery of new highly productive ships and of modern loading equipment and an ahead of schedule introduction of advanced technology for shipping cargoes and performing ship repair work and of the achievements of scientific and technological progress;

--increasing the efficiency of the work of the fleet on the lines in keeping with schedules and by consistent runs;

--an improvement of the quality of cargo shipments, loading and unloading work, fleet repairs, and of the output produced by industrial enterprises;

--a strengthening of labor and production discipline, a further improvement of ideological and political-educational work among the crews and collectives, a decrease in labor turnover and an improvement of the professional training of cadres;

--a wide dissemination of the advanced experience of ship crews and of the collectives of teams, sectors, shops, and cargo areas which work with a high level of productivity and without injuries and accidents;

--ensuring the complete fulfillment of all of the assignments of the overall plan for improving labor protection conditions and social and health improvement measures.

While calling upon all seamen, port workers, ship repair workers, and all of our labor collectives to make maximum use of reserves for fulfilling and overfulfilling the state plan and the branch's socialist commitments, we appeal to our related workers -- railroad and river workers and truck drivers -- to strengthen their labor collaboration in order to improve supplying the needs of the country for cargo and passenger hauls.

The workers of maritime transport assure the Central Committee of the Communist Party of the Soviet Union and the Soviet government that in accomplishing the tasks which have been set by the 25th CPSU Congress for the branch they will develop socialist competition even more widely and turn the year 1980, the year of active preparations for the 26th Party Congress, into a year of shock work, work in a Leninist manner under the motto of "Not a Single Lagging Collective in the Branch."

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CSO: 1829

CONSTRUCTION OF NEW SHIP, 'STAKHANOVETS PETRASH', REPORTED

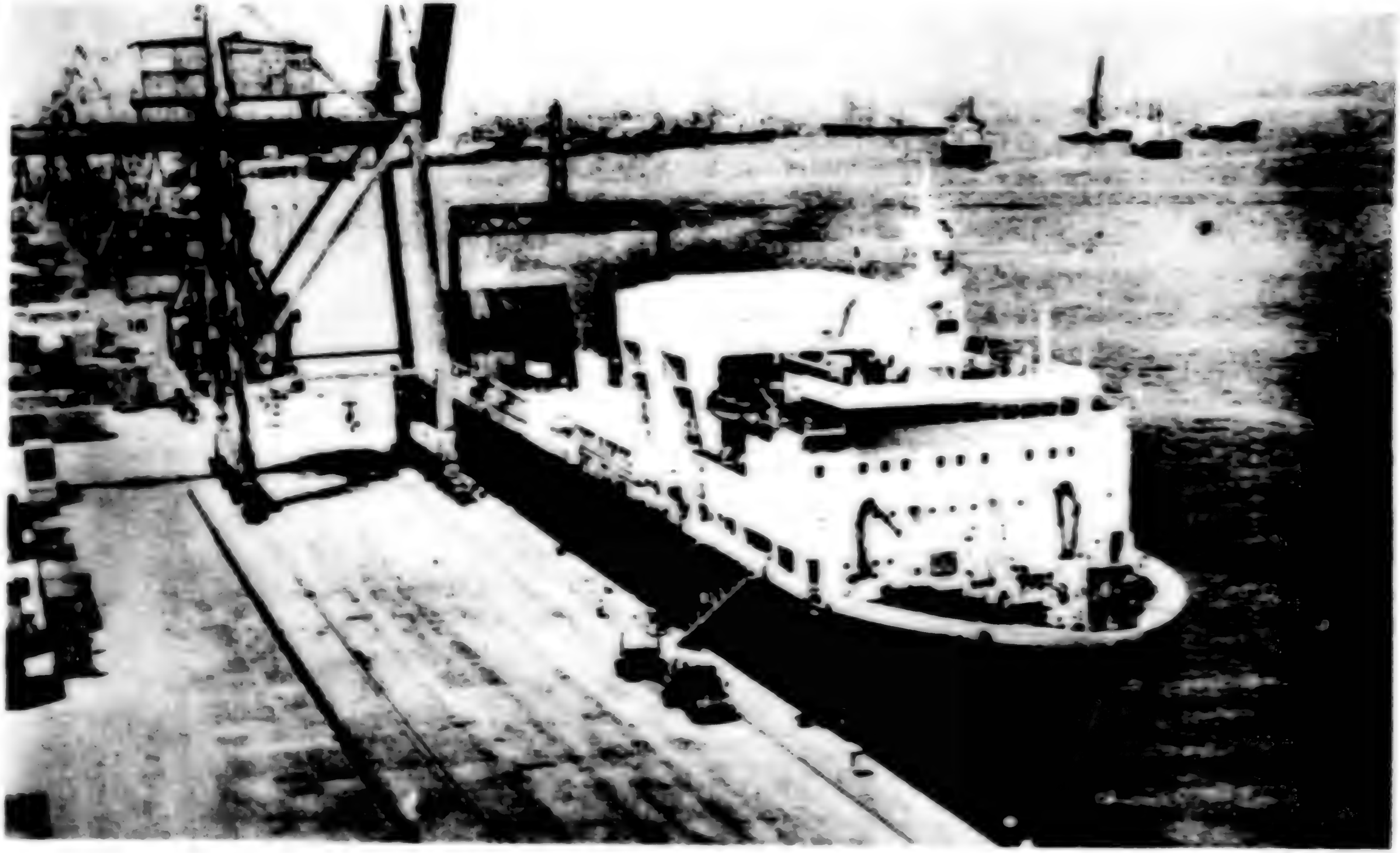
Moscow MORSKOY FLOT in Russian No 12, Dec 79 pp 36-37

/Text/ The fleet of the Black Sea Steamship Company has been supplemented by a new ship, "Stakhanovets Petrash". This is the third diesel ship of the "Stakhanovets Kotov" type. It was built at the "Hollming" Finnish Shipyard. This ship has been designed to haul large-scale, heavy cargoes in its hold and on deck. When the need arises, it can also carry containers, wheeled equipment, or lumber.

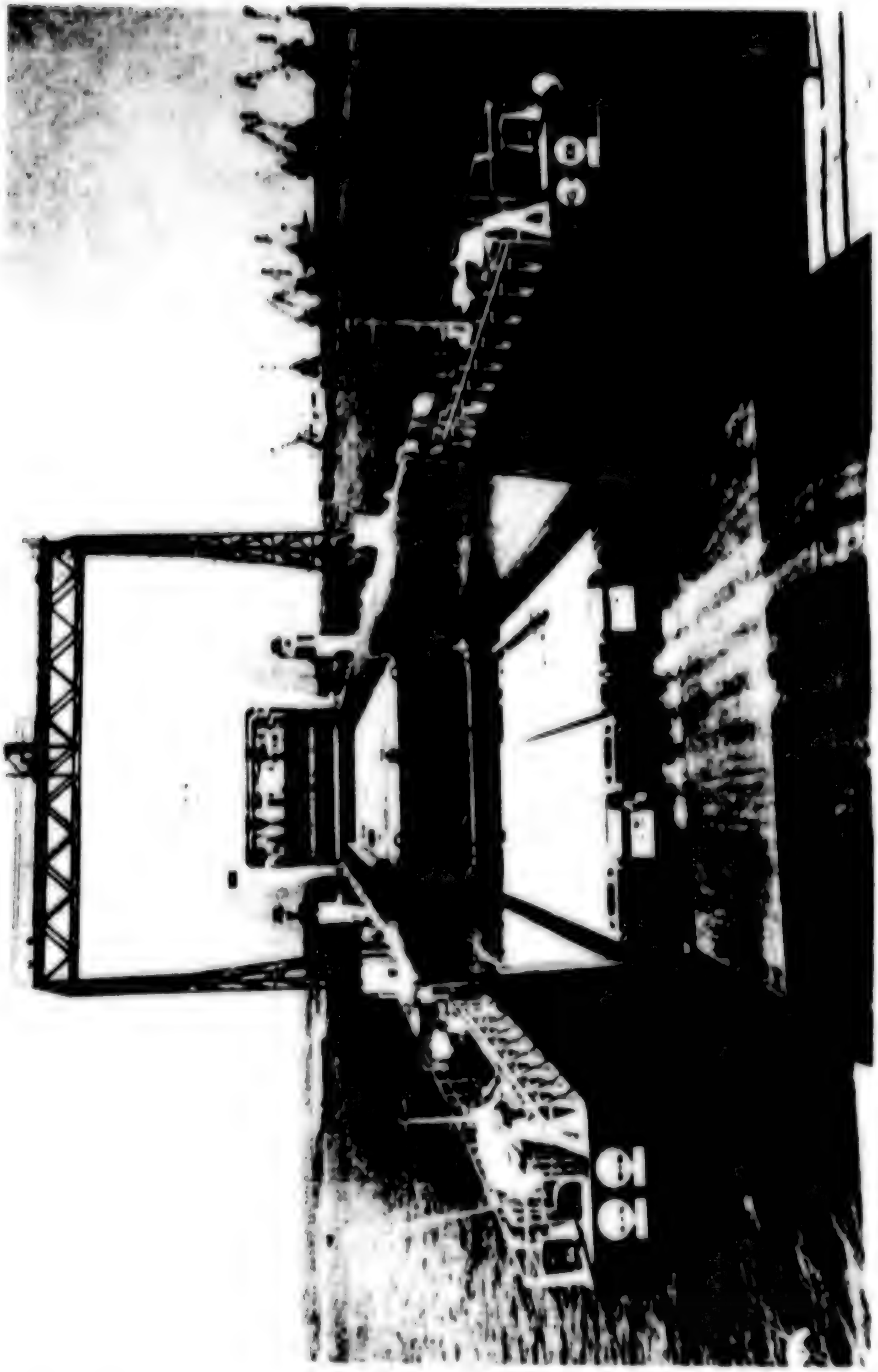
This ship is capable of conducting loading and unloading operations from a wharf and from the water; in the latter case it is lowered by as much as nine meters with the help of a special apparatus, and a floating crane is set up at a length of 90 meters into its hold. Two gantry cranes are set up on its deck with a cargo-hoisting capacity of 350 tons each. Wheeled equipment can be loaded on by the horizontal method.

The ship has a maximum length of 139.5 meters, a beam of 20.2 meters, and a maximum draft of 9.0 meters. The two main engines allow this diesel ship to develop a speed of as much as 14.3 knots. The ship has a sub-steering apparatus and a system for stabilizing rolling. The machinery section is located in the ship's stern part, while the living quarters are located in the bow section; this creates favorable conditions for the sailors' rest.

V. Sorokin, who has worked on ships of the Black Sea Steamship Company for more than 30 years, has been appointed captain of the diesel ship "Stakhanovets Petrash." Of the 35 crew members, almost half are in the officers' complement and have a higher education. All the sailors are prepared to apply their maximum efforts to master the new equipment within a short time period.



"Stakhanovets Petrash"



Diesel ship ready for loading and unloading operations

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OCEAN AND RIVER

DELAYS IN REPAIR OF SHIPPING CONTAINERS CRITICIZED

Moscow VODNYY TRANSPORT in Russian 19 Feb 80 p 2

[Article by V. Lushchevskiy, correspondent: "The 'Sick' Container"]

[Text] At the Riga seaport sometimes as many as 70 unrepaired containers pile up. Every one of them, having "gotten out of line" for a certain amount of time, creates a small but tangible break in the precisely regulated container flow system. It is extremely important for the plans of the steamship company, as well as for the individual, specialized ships, that the process of renovating the containers be put in order in the best possible way and that this entire operation take as little time as possible.

Is this, in fact, being done? Alas, not so at all! In the port area itself the possibilities for repairing "sick" containers are hardly even modest. For these purposes the shoreline facility has allocated two men; they are capable of only minor-type or, at best, something approaching a medium level of repairs. But if the damage is more serious, then these "experts" turn out to be helpless.

Such a situation took place quite a long time ago, dating from the time when the need for container-repairing services was revealed. And from that same time debates have been carried on in the Latvian Maritime Steamship Company as to whether it would be good to have a specialized section for repairing the container pool, to put this matter on a solid engineering basis, to achieve in servicing the "silvery boxes" the same kind of precision as, let's say, in dock work and other repair services for ships.

Meanwhile, unfortunately, all this is only in the planning stage, and the duty of repairing containers in accordance with the appropriate decree has been imposed on the fleet's technical service base. And it is precisely the latter which has been receiving for some time now numerous directives regarding the repair of containers, pallets, and fastenings. The BTO Technical Service , which had no previous experience in such matters and did not have at its disposal either the technical, material, or human possibilities for carrying them out, naturally, became indebted to the port and the ships of the line.

The results have been sad: not having its own proper base for "treating" containers, the steamship line has them repaired abroad, and this requires the expenditure of considerable funds.

There is no shortage of decrees and regulations calling for an end to such squandering. The authoritative commission which was created within the steamship company to resolve this problem when it arose has met three times. We have been waiting for specific decisions from it at least with regard to the two main questions: to set aside a small area for a future container section and to seek out funds for these purposes. Up to now, however, neither of these questions have been resolved because neither the Riga seaport nor the steamship company's capital construction company have wished to waive their own departmental interests.

This bottleneck has a tangible negative effect on the fleet's interests and on the steamship company's calculation of expenditures. For until there are guarantees of rapid and precise container repair, there can actually be no calm and steady flow of cargoes. If the problem is not completely solved, this lack of coordination will further increase the fever in the operation of the port's container terminal. We think that it is necessary to agree with the suggestions made by the specialists of the technical service base, namely, to free up at least a modest-sized area on the territory of this enterprise so that a repair "service" for containers may be developed on it. The steamship company's section on labor organization and wages, understanding the importance of this problem, has allocated a staff of three engineering-technical workers for such a section. We may also consider as an early harbinger the creation within the BTO of a brigade consisting of ten persons which is specializing in the repair of port equipment (roll-trailers, pallets, racks, and fastenings), so that in the future, when the section is set up, its "sphere of influence" will be extended to containers as well.

One way or another, this problem must be solved in the very near future. The diseased condition in which containers have been so long has obviously been prolonged too much.

2384
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COMPENSATION FOR STEAMSHIP COMPANY EMPLOYEES

Moscow VODNYY TRANSPORT in Russian 13 Mar 79 p 4

[Article entitled: "Bonuses According to the Sums of the Year's Work"]

> [Text] At enterprises of the Ministry of the Maritime Fleet that have changed over to the new system of planning and economic incentive, the payment of a bonus to workers and office employees according to the sums of the year's work has been established. Judging by the letters being received by the editor, these bonuses are not correctly calculated at all steamship companies. In this connection, our correspondent asked I. Samokhotkin, the deputy chief of the administration for labor management and wages of the USSR Ministry of the Maritime Fleet, to answer a series of questions of interest to our readers.

Question: Do all workers have a right to receive a bonus for the general results of the operations of an enterprise according to the sums for the year?

Answer: All workers making up the staff (the registered complement) of a given enterprise have a right to receive an annual bonus if they have worked at the enterprise not less than one year, and if they have honestly and conscientiously fulfilled the conditions specified by the regulations operative at the enterprise for the payment of this bonus. Exceptions are specified according to which, in some cases, the bonus may be paid also to those who, for allowable reasons, have worked less than one calendar year. For example, the bonus may be paid in cases of: dismissal from work because of a call to service in the Armed Forces of the USSR, retirement, the birth of a child, or transfer to an elected office in the party, the council, the trade union, or the komsomol. It also may be paid in cases of a return to an enterprise after completing service in the Armed Forces or in an elected office and, for a woman, upon return from supplementary leave (up to one year) for the care of a child.

Question: How do the results of the production and economic activities of an enterprise affect the size of the bonus?

Answer: The bonus is paid from a material incentive fund which is derived from profits. The allotments from profits put in this fund are made depending on the fulfillment of the plan, in accordance with fund-forming and production indexes. (For example, for enterprises in the basic operational activity of maritime transport, such indexes are the level of general profitability, the productivity of labor, or the profit.)

The better the results of the operations of an enterprise, the greater will be the funds for payment of the bonus to workers and office employees according to the sums for the year's work. On the other hand, with nonfulfillment of the plans according to the indicated indexes, the allotments to the material incentive fund are correspondingly reduced.

Question: Besides the money designated for these purposes by the estimate of the consumption of the fund for material incentive, can the residues of monies placed in the fund in accordance with other provisions for it be used in the payment of the bonus according to the sums of the year's work?

Answer: With nonfulfillment of the plan according to the fund-forming indexes, the payment of the bonus for the general results of operations according to the sums for the year is carried out on the basis of a reduced amount, as opposed to the planned amount specified for these purposes. (As a rule, in connection with nonfulfillment of the plan, the reduction is carried out in proportion to the total reduction of the planned fund for material incentive.)

With fulfillment or overfulfillment of the annual plan according to the fund-forming indexes, in the payment of the bonus according to the sums for the year's work, the residues of monies put in the fund according to other provisions for the fund for material incentive may be used in addition to the money intended for these purposes according to the estimate. In this, not less than 25% of the money,designated in the estimate of the consumption of the material incentive fund for rewarding supervisors, engineering and technical workers and office workers but not disbursed during the year because of nonfulfillment of monthly or quarterly plans, must be placed in the reserves of the enterprise and may be used in the established way for material incentive in the following year.

Question: When it is known what sum is available to an enterprise for the payment of bonuses to workers and office employees according to the sums for the year's work, on what will depend the size of the bonus to an individual worker?

Answer:The payment of the bonus is made in accordance with the individual labor contribution of each worker to the general results of the operation of the enterprise for this period, and taking into account the length of his uninterrupted service at the enterprise.

The sum of all wages received by a worker is taken as the index of his contribution to the general results of the operations of the enterprise. In the calculation of the bonus, the wages received are increased by a factor corresponding to the length of his uninterrupted service. With one year of service,the factor is one, and it increases in accordance with the length of uninterrupted service. In the majority of maritime transport enterprises the maximum factor used is 1.5, but in some it is 2.0.

The decisions about how the factors for length of service are to be established, how uninterrupted length of service is to be computed, and what sums are to be included in the calculation of average earnings,are made by the management of the enterprise in accordance with the agreement with the appropriate committee of the trade union arrived at during the establishment of the conditions for the payment of the bonus.

The right to increase or decrease (as a rule, not by more than 25%) the size of the calculated bonus for workers ,depending on the individual results of their work, has been left to the management of the enterprises in accordance with an agreement with the appropriate committee of the trade union. Also, the right has been given to withhold the bonus partially or completly for absenteeism, for workers who have been called to administrative or criminal account, and for workers who have been prosecuted publicly for hooliganism or hard drinking.

The management of the enterprise also has the right to withhold or diminish the size of the bonus for individual workers for negligences of which a list, corroborated by agreement with the appropriate committee of the trade union, has been prepared.

The size of the bonus is increased for workers who bring in important contributions to the general results of the operations of a collective that have been recognized by prizes, awards, or the conferment of honorary titles.

Question: What is the basic purpose of the payment of the scaled bonus?

Answer:The purpose of this kind of bonus is to stimulate in every possible way the efforts of the whole staff to increase the efficiency of the production and economic activities of an enterprise, and directly to interest everyone in improving the quantitative and qualitative results of labor which, unavoidably, are reflected in the total results of the operations of the enterprise.

Question: What is the sequence of the payment of the bonus?

Answer: The bonus is paid after the presentation of the results of the economic activities for the year at public meetings or at meetings of the active membership.

Question: If disputes arise in the payment of a bonus, by whom are they settled?

Answer: Disputes are settled in the commission on labor disputes, in the committees of the trade union of the enterprise, or in public courts.

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BRIEFS

POLISH SHIPYARD TRAWLER DELIVERY--Ship specialists at the V. I. Lenin Shipyard in Gdansk are building a series of big new refrigerated trawlers on an order from the Soviet Union. The first of the trawlers, which bears the name of Hero of the Soviet Union I. Zimakov, has already arrived in Murmansk and started operations. The trawler "Mikhail Kvasnikov," named in honor of the frontline soldier who accomplished a heroic feat in the battles in the Pechenga sector, has also been launched. Yet another ship bearing the name of a hero--Nikolay Zakorkin--will reinforce the fishing fleet in the near future. [Excerpt] [LD201423 Moscow KRASNAYA ZVEZDA in Russian 14 Mar 80 p 4 LD]

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END

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USSR REPORT: Human Resources
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